MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Jefferson #12

Drinking Water State Revolving Fund Green Project Reserve
Business Case

State Fiscal Year 2013 Intended Use Plan

Project Number DW291324-01

Loan Date: May 22, 2013

Green Estimated Costs: $1,732,000

Water System Improvements for Jefferson #12, Missouri
Business Case

Summary

- The purpose of the project is to replace approximately 129 feet of four-inch (4") water main, 170 feet of six-inch (6") water main, 14,920 feet of eight-inch (8") water main, 1,495 feet of twelve-inch (12") water main and all the necessary appurtenances to complete the project and have a usable system. The addition and replacement of the water mains for this project is to provide looping, to address system failures, such as water main breaks, and provide the expected capacity due to the forecasted growth.
- SRF Assistance Amount: $1,732,000.00
    - pipe replacement = $1,732,000 = 100%

Background

- The water source for the District's water system comes from three wells with a total pumping capacity of approximately 2,030,400 gpd.
- The distribution system consists of water mains ranging in size from two (2) to twelve inches in diameter. The distribution system also includes five (5) water storage tanks with total usable storage of 789,300 gallons.
- The District currently serves a population of approximately 3,000 with an average daily water demand of approximately 248,860 gallons per day (gpd) and a peak day demand of approximately 373,290 gpd. Recent history indicates that the water customers for the District have been steadily increasing by approximately two (2) percent per year. The future estimated population to be served for the year 2031 will be approximately 4,971 with an average daily demand of approximately 412,361 gpd and 618,542 gpd for peak daily demand.

Results/Conclusion

- Replacing the old, leaking water mains will increase water efficiency by decreasing the amount of water lost.
- Benefits from water main replacement include reductions in unnecessary pumping and operation and maintenance expenditures, and eliminating potential health hazards associated with waterborne pathogens entering the water distribution system.